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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,277	11/09/2001	Donald M. Bartlett	LSI.08USC1 (95-133/1P/1C/	3839

24319 7590 08/22/2003

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EXAMINER

SOWARD, IDA M

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 08/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/991,277

Examiner

Ida M Soward

Applicant(s)

BARTLETT ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

This Office Action is in response to Applicants' response filed May 27, 2003.

### *Drawings*

Figure 1 should be designated by a legend such as --**Prior Art**-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art Figure 1 in view of Hause et al. (5,885,887) and Tsuchimoto (3,773,566).

Admitted Prior Art Figure 1 teaches an integrated circuit having a plurality of circuits **10** & **30** formed on a common substrate **15** and circuitry formed on

predetermined portions of the common substrate. However, Admitted Prior Art Figure 1 fails to teach embedded regions buried in the common substrate and isolation regions. Hause et al. teach the embedded regions are buried in the common substrate (Figures 1E-1G, cols. 4-5, lines 52-67 and 1-19, respectively). Tsuchimoto teaches isolation regions; masking predetermined locations of a common substrate **30**; boron and phosphorus ions; (Figures 1-14, cols. 2-5). In regard to claims 1 and 9-7, Initially, and with respect to claims , note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hiraq, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Fitzgerald, 205 USPQ 594, 596 (CCPA); In re Marosi et al., 218 USPQ 289 (CAFC); and most recently, In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) all of which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that Applicant has burden of proof in such cases as the above case law makes clear. As to the grounds of rejection under section 103, see MPEP § 2113. Since Admitted Prior Art Figure 1, Hause et al. and Tsuchimoto are from the same field of endeavor (integrated circuits), the purpose disclosed by Tsuchimoto would have been recognized in the pertinent art of Admitted Prior Art Figure 1 and Hause et al. Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify forming the integrated circuit of Admitted Prior Art Figure 1 by incorporating the embedded regions of Hause et al. and the isolation region of Tsuchimoto to improve the degree of integration of the circuit elements (col. 2, lines 1-3).

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art Figure 1, Hause et al. (5,885,887) and Tsuchimoto (3,773,566) as applied to claims 1-2, 4-7 and 9-11 above, and further in view of Diaz (5,760,445).

Prior Art Figure 1, Hause et al. and Tsuchimoto teach all mentioned in the rejection above. However, Prior Art Figure 1, Hause et al. and Tsuchimoto fail to teach a substrate including an epitaxial layer and an underlying substrate layer. Diaz teaches a substrate including an epitaxial layer **226** and an underlying substrate layer **228** (Figures 2A-2C, cols. 4-5, lines 62-67 and 1-10, respectively). Since Admitted Prior Art Figure 1, Hause et al., Tsuchimoto and Diaz are from the same field of endeavor (integrated circuits), the purpose disclosed by Diaz would have been recognized in the pertinent art of Admitted Prior Art Figure 1, Hause et al. and Tsuchimoto. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify forming the integrated circuit of Prior Art Figure 1, the embedded regions of Hause et al. and the isolation region of Tsuchimoto by incorporating the substrate of Diaz to provide a device that does not require special processing

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steps which increase process cycle times and process and device cost (col. 2, lines 25-29).

### ***Response to Arguments***

In regard to Admitted Prior Art Figure 1, Figure 1 is described as being the background of the invention.

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respects to high energy implanted structures:

Anjum et al. (US 6,331,458 B1)

Hsu (4,445,270)

Miller et al. (4,682,404)

Varker et al. (4,683,637).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M Soward whose telephone number is 703-305-3308. The examiner can normally be reached on Monday - Thursday, 6:30 am to 5:00 pm.

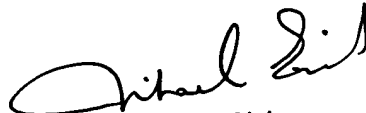
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 703-308-4940.

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The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ims  
August 6, 2003

  
Michael Trinh  
Primary Examiner  
Act SPE